TECHNICAL GUIDANCE MANUAL

FOR

UNDERGROUND STORAGE TANK CLOSURE

AND

RELEASE RESPONSE

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GLOSSARY

Abatement - Actions taken to reduce or control contamination resulting from a UST, including eliminating the source of the contamination.

Aeration - A physical process to enhance the vaporization of volatile contaminants from liquid state to gaseous state.

Ancillary Equipment - Includes, but is not limited to, any devices such as fittings, flanges, valves, and pumps, that are used to distribute, meter, or control the flow of regulated substances to and from a UST.

Aquifer - An underground geological formation that has sufficiently high porosity and permeability to supply water for wells and springs.

Biodegradation - A process by which a contaminant is subject to degradation by microorganisms.

Change-in-Service - Continued use of a UST, which formerly stored a regulated substance, to store a non-regulated substance.

Cleanup - Actions taken to address a release, or threat of a release, of a regulated substance that could affect or potentially affect human health and/or the environment. The term "cleanup" is sometimes used interchangeably with the terms "remedial action", "release response action", or "corrective action".

Confined Aquifer - An aquifer in which groundwater is confined under pressure, by a low permeability geological layer.

Confirmed Release - The detection of a regulated substance in air, soil, or water caused by a release from a UST.

Contaminant - A regulated substance which has been released into air, soil, or water.

Debris - Materials such as rocks, concrete and asphalt rubble, tree stumps and other plant materials which can normally be encountered during UST closure and cleanup activities.

Excavation - The volume of space from which materials have been removed such as the UST, backfill, and native soil.

Federal UST Regulations - All rules and regulations promulgated by the U. S. Environmental Protection Agency under 40 CFR Part 280 pursuant to Subtitle I of the Resource Conservation and Recovery Act.

Field Measurements - Quick indicators of contaminants in the environment procured in a manner which do not include analysis of samples by a laboratory.

Field Sampling Plan (FSP) - Defines in detail the sampling and data gathering activities to be used at a site.

Free Product - Refers to a regulated substance that is present as a non-aqueous phase liquid (i.e., liquid not dissolved in water).

Ground Water - Saturated zone (water) beneath land surface, usually in the form of aquifers below the unsaturated zone.

Hazardous Substance - Any substance defined in section 101 (14) of the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C of the Resource Conservation and Recovery Act).

Hazardous Waste - A material no longer useable which is listed by EPA as a hazardous waste, or a material no longer useable which exhibits characteristics of a hazardous waste as defined in 40 CFR Part 261.

Inerting - The process by which an inert gas such as carbon dioxide or nitrogen is introduced at low pressure into a tank to displace petroleum vapors.

Liner - A relatively impermeable barrier or membrane designed to prevent leachate from infiltrating into native soil or surface beneath. Liners are constructed of synthetic or clay materials.

Makai - Toward the sea. "Makai of the UIC line" means the area outside the underground injection control (UIC) line encircling the island or protected aquifer.

Mauka - Toward the mountains. "Mauka of the UIC line" means the area inside the underground injection control (UIC) line encircling the island or protected aquifer.

Maximum Contaminant Level (MCL) - The maximum permissible level of a contaminant in water delivered to any user of a public water system. These levels are established for drinking water under the federal Safe Drinking Water Act.

Monitoring - Periodic or continuous surveillance, sampling, or testing to determine contaminant levels or compliance with regulatory requirements.

Operator - Any person in control of, or having responsibility for, the day-to-day operation of the UST.

Owner - (1) In the case of a UST in use, or brought into use, on or after May 19, 1984, any person who owns a UST used for the storage, use, or dispensing of regulated substances; and (2) in the case of a UST in use before May 19, 1986, but no longer in use after that date, any person who owned such UST immediately before the discontinuation of its use.

Petroleum - A regulated substance which includes crude oil or any fraction thereof which is liquid at standard temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Project Coordinator - Person (generally, from an environmental consulting firm) who has signatory authority and responsibility to plan and oversee closure and release response activities at a UST site. This person should ideally be present at all times while work is being done at the UST site.

Purging -The process of ventilating a UST by displacement of petroleum vapors in the UST with air to render the air space in the UST below the lower explosive limit.

Quality Assurance Project Plan (**QAPP)** - A plan that describes protocols necessary to achieve the data quality objective for a sampling event.

Regulated Substance - Petroleum and hazardous substances.

Release - includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing of a regulated substance from a UST into ground water, surface water, soils, or air.

Reporting - notifying DOH of an event by telephone, letter, or written reports.

Residual Levels of Contaminants - Measures of the remaining contaminants left in soil or groundwater after undertaking release response activities.

Risk Assessment - An evaluation performed to define the risk or potential risk posed to human health and/or the environment by the presence of specific chemicals released into the environment.

Risk Based Corrective Action - a consistent decision making process for the assessment and response to a petroleum release based on the protection of human health and the environment.

Sampling and Analysis Plan (SAP) - Consisting of a quality assurance project plan (QAPP) and a field sampling plan (FSP)**.**

Site Assessment - Evaluation of the area beneath and around the UST for releases. This includes measuring for contaminants in soil and/or ground water.

Sludge and Sediments - Residual materials accumulated at the bottom of a UST over time which can include heavy petroleum compounds, water, tank rust and scale, soil, dirt and other foreign materials.

Tarpaulin - An impermeable synthetic material designed to prevent the effects of rain and wind on contaminated soil or other materials beneath.

Underground Storage Tank or **UST** or **Tank** - means any combination of tanks (including pipes connected thereto) used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is ten percent or more beneath the surface of the ground.

Vadose Zone - The subsurface zone that extends between the ground surface and the water table and includes the capillary fringe overlying the water table.

Water Table Aquifer - An aquifer in which ground water is not confined under pressure by low permeability geological layer.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
API	American Petroleum Institute
BTEX	benzene, toluene, ethylbenzene, xylene
CAB	Clean Air Branch
CFR	Code of Federal Regulations
CGI	combustible gas indicators
CNS	central nervous system
CPR	cardiopulmonary resuscitation
CRN	Confirmed Release Notification
CWB	Clean Water Branch
DLIR	Hawaii Department of Labor and Industrial Relations
DLNR	Hawaii Department of Land and Natural Resources
DOD	Hawaii Department of Defense
DOH	Hawaii Department of Health - UST Section

DOSH	Division of Occupational Safety and Health
DOT	Hawaii Department of Transportation
EDB	ethylene dibromide
EDC	ethylene dichloride
ELY	ethylene glycol
EPA	Environmental Protection Agency
FID	flame ionization detector
FSP	field sampling plan
GAC	Granular Activiated Carbon
GC	gas chromatograph
HAR	Hawaii Administrative Rule
HEER	Office of Hazard Evaluation and Emergency Response
HRS	Hawai`i Revised Statutes
IDLH	immediately dangerous to life or health
IRIS	Integrated Risk Information System
LEL	lower explosive limit
MCL	maximum concentration limit
MSHA	Mine Safety and Health Administration
MTBE	methyl tert-butyl ether
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NLPA	National Leak Prevention Association
OSHA	Occupational Safety and Health Administration
OVA	organic vapor analyzer
OSWM	Office of Solid Waste Management
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCS	petroleum contaminated soil
PEL	permissible exposure level
PERC	perchloroethylene
PID	photo ionization detector
PPE	personal protective equipment
ppb	parts per billion
ppm	parts per million

QAPP	quality assurance project plan
QA/QC	quality assurance / quality control
RBCA	Risk-Based Corrective Action
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SAL	Soil Action Level
SDWB	Safe Drinking Water Branch
SHWB	Solid and Hazardous Waste Branch
SHSP	Site Health and Safety Plan
TCA	trichloroethane
TCE	trichloroethylene
TCLP	toxicity characterisitc leaching procedure
TDS	total dissolved solids
TEL	tetraethyl lead
TLV	threshold limit value
TML	tetramethyl lead
TOCP	tri-ortho-cresyl phosphate
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
TVH	total volatile hydrocarbons
UIC	underground injection control
UST	underground storage tank
USDW	underground source of drinking water
VOC	volatile organic compound
WWT	wastewater treatment plant